## SEQUENCE LISTING

- (1) GENERAL INFORMATION:
  - (i) APPLICANT:
  - (ii) TITLE OF INVENTION: Novel CREBa Isoform
  - (iii) NUMBER OF SEQUENCES: 9
    - (iv) CORRESPONDENCE ADDRESS:
      - (A) ADDRESSEE: MArshall, O'Toole, Gerstein, Murray & Borun
      - (B) STREET: 233 South Wacker Drvie, 6300 Sears Tower
      - (C) CITY: Chicago
      - (D) STATE: Illinois
      - (E) COUNTRY: USA
      - (F) ZIP: 60606
    - (v) COMPUTER READABLE FORM:
      - (A) MEDIUM TYPE: Floppy disk
      - (B) COMPUTER: IBM PC compatible
      - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
      - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
    - (vi) CURRENT APPLICATION DATA:
      - (A) APPLICATION NUMBER:
      - (B) FILING DATE: January 12, 1998
      - (C) CLASSIFICATION:
  - (viii) ATTORNEY/AGENT INFORMATION:
    - (A) NAME: Williams Jr., Joseph A.
    - (B) REGISTRATION NUMBER: 38,659
    - (C) REFERENCE/DOCKET NUMBER: 27866/33469
    - (ix) TELECOMMUNICATION INFORMATION:
      - (A) TELEPHONE: 312-474-6300
      - (B) TELEFAX: 312-474-0448
- (2) INFORMATION FOR SEQ ID NO:1:
  - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 3190 base pairs
    - (B) TYPE: nucleic acid
    - (C) STRANDEDNESS: single
    - (D) TOPOLOGY: linear
  - (ii) MOLECULE TYPE: cDNA
  - (ix) FEATURE:
    - (A) NAME/KEY: CDS
    - (B) LOCATION: 304..1866

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGCACGAGGG ACTTTCTTGG GATGAGCGCT GCCTTTTTGG CTTCCTTTTG GATGCACAGC	60
CCGATTTAAC CCCTGCACCT TCCGCCCGAT CCCAGCAGGC TTGTCCTCCC CGGGGAGTCA	
	120
CAGATTTCCG AGGACAAGGG TCGCGTAGCC TTCGGCAGGG CTCTCCCGAG TTCCTGCTCC	180
AGTGCATAAG TTCCACGCGC GCACACGCCA AGTACACGGG GAGAAGCGTC TCACCGGCCC	240
GCGGCGGCTC TGCGCGGTCC CCTCCTGCCT CAGCATCCTC GGGCCTGCGC GGCGCCCACC	300
GCC ATG GAG GTG CTG GAG AGC GGG GAG CAG AGC GTC CTG CAG TGG GAC  Met Glu Val Leu Glu Ser Gly Glu Gln Ser Val Leu Gln Trp Asp  1 5 10 15	348
CGC AAG CTG AGC GAG CTG TCA GAG CCC GGA GAG ACT GAG GCC CTC ATG Arg Lys Leu Ser Glu Leu Ser Glu Pro Gly Glu Thr Glu Ala Leu Met 20 25 30	396
TAC CAC ACG CAC TTC TCG GAG CTC CTA GAC GAG TTT TCC CAG AAC GTC Tyr His Thr His Phe Ser Glu Leu Leu Asp Glu Phe Ser Gln Asn Val 35 40 45	444
CTG GGT CAG CTC CTG AGT GAC CCT TTC CTC TCA GAG AAG AGC GAG TCA Leu Gly Gln Leu Leu Ser Asp Pro Phe Leu Ser Glu Lys Ser Glu Ser 50 55 60	492
ATG GAG GTG GAG CCA TCT CCA ACA TCA CCA GCG CCT CTC ATC CAG GCT  Met Glu Val Glu Pro Ser Pro Thr Ser Pro Ala Pro Leu Ile Gln Ala  65 70 75	540
GAA CAC AGC TAC TCT CTG AGC GAG GAG CCC CGG ACT CAG TCA CCA TTT Glu His Ser Tyr Ser Leu Ser Glu Glu Pro Arg Thr Gln Ser Pro Phe 80 85 90 95	588
ACC CAT GCG GCT ACC AGC GAC AGC TTC AAT GAC GAG GAG GTG GAG AGT Thr His Ala Ala Thr Ser Asp Ser Phe Asn Asp Glu Glu Val Glu Ser 100 105 110	636
GAA AAA TGG TAC CTG TCT ACA GAG TTT CCT TCA GCT ACC ATC AAG AAA Glu Lys Trp Tyr Leu Ser Thr Glu Phe Pro Ser Ala Thr Ile Lys Lys 115 120 125	684
GAG CCA ATC ACA GAG GAG CAG CCC CCG GGA CTT GTC CCT TCT GTC ACT Glu Pro Ile Thr Glu Glu Gln Pro Pro Gly Leu Val Pro Ser Val Thr 130 135 140	732
CTG ACC ATC ACA GCC ATT TCC ACT CCT TTT GAA AAA GAA GAG TCC CCT Leu Thr Ile Thr Ala Ile Ser Thr Pro Phe Glu Lys Glu Glu Ser Pro 145 150 155	780
CTG GAT ATG AAT GCT GGG GGG GAC TCC TCA TGC CAG ACG CTT ATT CCT	828

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Let 16(	ı Asp O	Met	. Ası	ı Ala	a Gly 165	/ Gly	/ Asp	Ser	Ser	Cys		1 Thr	Leu	Ile	Pro 175	
AAC Lys	ATI	AAC Lys	G CTO	G GAC 1 Glu 180	Pro	CAC His	GAA Glu	GTO Val	GAT Asp 185	Gln	TTC Phe	TTA Leu	AAC Asn	TTC Phe 190	Ser	876
CCG Pro	AAA Lys	A GAZ Glu	GCC Ala 195	ser	C GTG	GAT Asp	CAA Gln	Leu 200	His	TTA Leu	CCA Pro	CCA Pro	ACA Thr 205	CCA Pro	CCC Pro	924
AGT Ser	AGT Ser	CAC His	Ser	AGT Ser	'GAC	TCT Ser	GAG Glu 215	GGC Gly	AGC Ser	TTG Leu	AGC Ser	CCC Pro 220	AAC Asn	CCA Pro	CGC Arg	972
CTG Leu	CAT His 225	PIU	TTC Phe	AGC Ser	CTG Leu	TCT Ser 230	CAG Gln	GCC Ala	CAC His	AGC Ser	CCT Pro 235	GTC Val	AGA Arg	GCC Ala	ATG Met	1020
CCC Pro 240	-11-9	GGC Gly	CCC Pro	TCT Ser	GCC Ala 245	TTG Leu	TCC Ser	ACA Thr	TCT Ser	CCT Pro 250	CTC Leu	CTC Leu	ACA Thr	GCT Ala	CCA Pro 255	1068
CAT His	AAG Lys	CTG Leu	CAG Gln	GGA Gly 260	TCG Ser	GGC Gly	CCC Pro	CTG Leu	GTC Val 265	CTG Leu	ACA Thr	GAA Glu	GAG Glu	GAG Glu 270	AAG Lys	1116
AGG Arg	ACC Thr	CTG Leu	GTT Val 275	GCC Ala	GAG Glu	GGC Gly	TAT Tyr	CCC Pro 280	ATT Ile	CCC Pro	ACC Thr	AAG Lys	CTG Leu 285	CCT Pro	CTG Leu	1164
ACA Thr	AAA Lys	TCT Ser 290	GAG Glu	GAG Glu	AAG Lys	GCC Ala	CTG Leu 295	AAG Lys	AAA Lys	ATC Ile	CGG Arg	AGA Arg 300	AAG Lys	ATC Ile	AAG Lys	1212
AAT Asn	AAG Lys 305	ATT Ile	TCT Ser	GCC Ala	CAA Gln	GAA Glu 310	AGC Ser	AGG Arg	AGA Arg	AAG Lys	AAG Lys 315	AAA Lys	GAA Glu	TAC Tyr	ATG Met	1260
GAC Asp 320	AGC Ser	CTG Leu	GAG Glu	AAA Lys	AAA Lys 325	GTG Val	GAG Glu	TCT Ser	TGT Cys	TCA Ser 330	ACT Thr	GAG Glu	AAC Asn	TTG Leu	GAG Glu 335	1308
CTT Leu	CGG Arg	AAG Lys	AAG Lys	GTG Val 340	GAG Glu	GTG Val	CTG Leu	GAG Glu	AAC Asn 345	ACC Thr	AAT Asn	AGG Arg	ACT Thr	CTC Leu 350	CTT Leu	1356
CAG Gln	CAA Gln	CTT Leu	CAG Gln 355	AAG Lys	CTT Leu	CAG Gln	Inr	TTG Leu 360	GTG Val	ATG Met	GGG Gly	AAG Lys	GTC Val 365	TCT Ser	CGA Arg	1404
ACC Thr	TGC Cys	AAG Lys 370	TTA Leu	GCT Ala	GGC Gly	ACA Thr	CAG Gln 375	ACT Thr	GGC Gly	ACC Thr	TGC Cys	CTC Leu 380	ATG Met	GTC Val	GTT Val	1452

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GTG CTT TGC TTT GCT GTT GCA TTT GGA AGC TTC TTT CAA GGC TAT GGG Val Leu Cys Phe Ala Val Ala Phe Gly Ser Phe Phe Gln Gly Tyr Gly 385 390 395	1500
CCT TAT CCT TCT GCC ACC AAG ATG GCT CTG CCC AGC CAG CAT CCT CTG Pro Tyr Pro Ser Ala Thr Lys Met Ala Leu Pro Ser Gln His Pro Leu 400 405 410 415	1548
TCA GAG CCA TAC ACA GCC TCC GTG GTG AGA TCC AGG AAC CTG CTA ATC Ser Glu Pro Tyr Thr Ala Ser Val Val Arg Ser Arg Asn Leu Leu Ile 420 425 430	1596
TAT GAG GAA CAC GCT CCC CTG GAA GAG TCG TCG AGC CCA GCC TCA ACC Tyr Glu Glu His Ala Pro Leu Glu Glu Ser Ser Ser Pro Ala Ser Thr 435 440 445	1644
GGG GAG CTG GGG GGC TGG GAC AGA GGC TCC TCT CTG CTC AGG GCA TCG Gly Glu Leu Gly Gly Trp Asp Arg Gly Ser Ser Leu Leu Arg Ala Ser 450 450 460	1692
TCG GGG CTT GAG GCC CTG CCA GAG GTG GAT CTT CCC CAT TTC CTT ATC  Ser Gly Leu Glu Ala Leu Pro Glu Val Asp Leu Pro His Phe Leu Ile  465 470 475	1740
TCC AAT GAG ACG AGC TTG GAG AAG TCA GTA CTG TTG GAG CTT CAG CAG Ser Asn Glu Thr Ser Leu Glu Lys Ser Val Leu Leu Glu Leu Gln Gln 480 485 490 495	1788
CAC CTG GTC AGC AGC AAA CTG GAA GGG AAC GAA ACA CTC AAG GTT GTA His Leu Val Ser Ser Lys Leu Glu Gly Asn Glu Thr Leu Lys Val Val 500 505 510	1836
GAG CTG GAG AGG AGA GTG AAC GCC ACC TTC TGAGGAGAGC TCCACCCTCC Glu Leu Glu Arg Arg Val Asn Ala Thr Phe 515 520	1886
TCTTCTCCTA ACTCCATCTG ATCGTCCTTT CAGTTTCCCC TTCACCACTG GATCTCGAGG	1946
AGGAGATGGC TAGTGTTACG GCTCGAGACA GGAGGCCAGC CCAGGGGGTT CTGCTTATGT	2006
GTCCCCGTGG CTCTCCACAA AAGGGAGCTA GCACCTCTCC ATCCCTTTCT CTTACTGCCA	2066
TTGGAAATTA TTTTAGGGCT GAGATAGGGG TGGAACGAGC AGGCTTGTTT CCACCAATAG	2126
TGCCAAGAAG ACACTGCCTG ATTCTTCCCC GGGAGGAGTG ACTCCTCTGA AGAAGACATG	2186
ACTCATGTTC AGTTGAGACC CCAGACTCTA GCCACACAC TGCCACAGAC ATGCCAGGGA	2246
GTGGCAAAGC ACTGACTCCT GAGCTCCCTT CCTCACTAGG ACTCCAGTGT GACCCTGCAC	2306
TGAGAGGACC AAAGCGTCAT TGCAGTCTTC TCTCCACCCT GTACCCCGGA GTCCTGATTG	2366
GATGTCTGCA GAGGCAGATG GGGCTCCCAC CATATTTTCA GGCCGCAAGT GCAATTCCTG	2426

AAGGCATCAG	GCTCTTCTCT	CCCAGGCTCT	CCTGCCCACT	GTGTTGTTTG	TAGGACACCC	2486
CCACACCCAC	TCATACACAG	CCTGCATCTC	CACAGGACAA	TAGCTCTGTC	TCCCTGGCCT	2546
CCCCTCCCCA	TTTGTAAATA	GTATTTATTA	GCTTGCTCAA	GCTCCCAGCT	GGCCATAGTG	2606
AAAAGATTTC	CCCTTTCAAC	CAGCAAAGTC	TTCTGTTGGC	CTTTGGAACA	GGAGAGTCCC	2666
CGGAATCTAG	GACCCTAGTC	TTTGTACTTG	ATGCCTTGTT	TCCCCCCTTT	TCTTCTTTAA	2726
AATTGGGGAC	CTATAACATC	ATCGCTGTTG	CGGAATCCAC	TTAGGCATGT	GTCCCCTGAT	2786
GGATGAATAC	ATGGGAATGG	TGGATACTGT	CTTCTGACTC	AGGCTCTAGG	CTCCATGGCT	2846
TCCTCTCTCT	GGTCCTGCCA	CACAGAAGGA	AAGCCCTGTC	CAGGATAATG	AGCGTTGCTG	2906
ACACCCTTGC	TAGCTTGTCC	TGCCTACCTG	CTTACCCCAC	TCCCTCACCT	TCCTCCTTCC	2966
CTTCTGCCCT	CCATCCACCT	GCCTTAACTA	ATTGGGGCTG	GAGTTGGTCA	TTTTTTGTAC	3026
ACCCACAGTG	GTACCTTTTA	CAGTCAGGTT	TGGATACTTT	GCAGCTCATC	CAAAGAGACA	3086
TAACTAAACC	CTAAACTCTT	TTTTTGTTGT	TGTTGTTGTT	GTTTTTTTT	TTTATGATTA	3146
AAAAGTAAAA	ATTGTAGTTT	АААААААА	AAAAAAAACT	CGAG		3190

## (2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 521 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Met Glu Val Leu Glu Ser Gly Glu Gln Ser Val Leu Gln Trp Asp Arg

1 5 10 15

Lys Leu Ser Glu Leu Ser Glu Pro Gly Glu Thr Glu Ala Leu Met Tyr 20 25 30

His Thr His Phe Ser Glu Leu Leu Asp Glu Phe Ser Gln Asn Val Leu 35 40 45

Gly Gln Leu Leu Ser Asp Pro Phe Leu Ser Glu Lys Ser Glu Ser Met 50 55 60

Glu Val Glu Pro Ser Pro Thr Ser Pro Ala Pro Leu Ile Gln Ala Glu 65 70 75 80

His Ser Tyr Ser Leu Ser Glu Glu Pro Arg Thr Gln Ser Pro Phe Thr

90

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His	Ala	Ala	Thr 100	Ser	Asp	Ser	Phe	Asn 105	Asp	Glu	Glu	Val	Glu 110	Ser	Glu
Lys	Trp	Tyr 115	Leu	Ser	Thr	Glu	Phe 120	Pro	Ser	Ala	Thr	Ile 125	Lys	Lys	Glu
Pro	11e 130	Thr	Glu	Glu	Gln	Pro 135	Pro	Gly	Leu	Val	Pro 140	Ser	Val	Thr	Leu
Thr 145	Ile	Thr	Ala	Ile	Ser 150	Thr	Pro	Phe	Glu	Lys 155	Glu	Glu	Ser	Pro	Leu 160
Asp	Met	Asn	Ala	Gly 165	Gly	Asp	Ser	Ser	Cys 170	Gln	Thr	Leu	Ile	Pro 175	Lys
Ile	Lys	Leu	Glu 180	Pro	His	Glu	Val	Asp 185	Gln	Phe	Leu	Asn	Phe 190	Ser	Pro
Lys	Glu	Ala 195	Ser	Val	Asp	Gln	Leu 200	His	Leu	Pro	Pro	Thr 205	Pro	Pro	Ser
Ser	His 210	Ser	Ser	Asp	Ser	Glu 215	Gly	Ser	Leu	Ser	Pro 220	Asn	Pro	Arg	Leu
His 225	Pro	Phe	Ser	Leu	Ser 230	Gln	Ala	His	Ser	Pro 235	Val	Arg	Ala	Met	Pro 240
Arg	Gly	Pro	Ser	Ala 245	Leu	Ser	Thr	Ser	Pro 250	Leu	Leu	Thr	Ala	Pro 255	His
Lys	Leu	Gln	Gly 260	Ser	Gly	Pro	Leu	Val 265	Leu	Thr	Glu	Glu	Glu 270	Lys	Arg
Thr	Leu	Val 275	Ala	Glu	Gly	Tyr	Pro 280	Ile	Pro	Thr	Lys	Leu 285	Pro	Leu	Thr
Lys	Ser 290	Glu	Glu	Lys	Ala	Leu 295	Lys	Lys	Ile	Arg	Arg 300	Lys	Ile	Lys	Asn
Lys 305	Ile	Ser	Ala ,	Gln	Glu 310	Ser	Arg	Arg		Lys 315	Lys	Glu	Tyr	Met	Asp 320
Ser	Leu	Glu	Lys	Lys 325	Val	Glu	Ser	Cys	Ser 330	Thr	Glu	Asn	Leu	Glu 335	Leu
Arg	Lys	Lys	Val 340	Glu	Val	Leu	Glu	Asn 345	Thr	Asn	Arg	Thr	Leu 350	Leu	Gln
Gln	Leu	Gln 355	Lys	Leu	Gln	Thr	Leu 360	Val	Met	Gly	Lys	Val 365	Ser	Arg	Thr
Cys	Lys	Leu	Ala	Gly	Thr	Gln	Thr	Gly	Thr	Cys	Leu	Met	Val	Val	Val

380

Leu Cys Phe Ala Val Ala Phe Gly Ser Phe Phe Gln Gly Tyr Gly Pro 385 390 395 400

375

Tyr Pro Ser Ala Thr Lys Met Ala Leu Pro Ser Gln His Pro Leu Ser 405 410 415

Glu Pro Tyr Thr Ala Ser Val Val Arg Ser Arg Asn Leu Leu Ile Tyr 420 425 430

Glu Glu His Ala Pro Leu Glu Glu Ser Ser Ser Pro Ala Ser Thr Gly
435 440 445

Glu Leu Gly Gly Trp Asp Arg Gly Ser Ser Leu Leu Arg Ala Ser Ser 450 455 460

Gly Leu Glu Ala Leu Pro Glu Val Asp Leu Pro His Phe Leu Ile Ser 465 470 475 480

Asn Glu Thr Ser Leu Glu Lys Ser Val Leu Leu Glu Leu Gln Gln His 485 490 495

Leu Val Ser Ser Lys Leu Glu Gly Asn Glu Thr Leu Lys Val Val Glu
500 505 510

Leu Glu Arg Arg Val Asn Ala Thr Phe 515 520

- (2) INFORMATION FOR SEQ ID NO:3:
  - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 29 base pairs
    - (B) TYPE: nucleic acid
    - (C) STRANDEDNESS: single
    - (D) TOPOLOGY: linear
  - (ii) MOLECULE TYPE: DNA
  - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

CGCGGATCCT AATGGAGCTG AGAGTCGGG

- (2) INFORMATION FOR SEQ ID NO:4:
  - (i) SEQUENCE CHARACTERISTICS:
    - (A) LENGTH: 29 base pairs
    - (B) TYPE: nucleic acid
    - (C) STRANDEDNESS: single
    - (D) TOPOLOGY: linear

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29

(ii) MOLECULE TYPE: DNA

(ii) MOLECULE TYPE: DNA

	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:	
CGC	GGATCCG CTCATCGGTG CACGACAGA	29
(2)	INFORMATION FOR SEQ ID NO:5:	
	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 29 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
	(ii) MOLECULE TYPE: DNA	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:	
CGG	GATCCTC ACAGCTCCAC ATAAGCTGC	29
(2)	INFORMATION FOR SEQ ID NO:6:	
	(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 28 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
	(ii) MOLECULE TYPE: DNA	
	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:	
GGA	ATTCGCT CAAGGAGAGT CCTATTGG	28
(2)	INFORMATION FOR SEQ ID NO:7:	
	<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 154 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:	
CAGGTCAGTT CAGCGGATCC TGTCGNNNNN NNNNNNNNN NNNNNNNNN NNNNNNNNN	60
NUNUNUNUN NUNUNUNUN NUNUNUNUN NUNUNUNUN	120
NNNNNNNNG AGGCGAATTC AGTGCAACTG CAGC	154
(2) INFORMATION FOR SEQ ID NO:8:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>(A) LENGTH: 25 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA	
•	-
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:	
CAGGTCAGTT CAGCGGATCC TGTCG	25
(2) INFORMATION FOR SEQ ID NO:9:	
<ul> <li>(i) SEQUENCE CHARACTERISTICS:</li> <li>.(A) LENGTH: 25 base pairs</li> <li>(B) TYPE: nucleic acid</li> <li>(C) STRANDEDNESS: single</li> <li>(D) TOPOLOGY: linear</li> </ul>	
(ii) MOLECULE TYPE: DNA	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:	
GCTGCAGTTG CACTGAATTC GCCTC	25
(2) INFORMATION FOR SEQ ID NO:10:	
(i) SEQUENCE CHARACTERISTICS:  (A) LENGTH: 38 base pairs  (B) TYPE: nucleic acid  (C) STRANDEDNESS: single  (D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: DNA	

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
GAATCGGGCC GCCGAGATCT CATATGGAGC TGAGAGTC

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